THE MARINE RECORD.

DEVOTED TO COMMERCE, ENGINEERING AND SCIENCE.

$2.00 PER YEAR. ESTABLISHED 1878. 10c. SINGLE COPY.

VOL. XVIII. CLEVELAND, OHIO, OCTOBER 31, 1895. NO. 44

COMMANDER LUDLOW NOT PROMOTED.

President Cleveland has disapproved the findings of the Examining Board which recommended Comdr. Nicol Ludlow for promotion. This action was based upon Commander Ludlow's action in making contradictory reports upon the fitness of Comdr. Charles S. Sperry for promotion. The President in his endorsement made some very severe comments, stating that the secretary and himself depended wholly upon the statements made by officers concerning officers junior to them and who had seen service under their command, and unless they made just statements neither he nor Mr. Herbert would know just what action was proper in examination cases.

It appears that some ten years ago Comdr. Ludlow made a very flattering report upon Comdr. (then Lieut.) Sperry's professional qualifications, and that officer was promoted to grade of lieutenant commander and continued to serve with Comdr. Ludlow as executive of the old Quinnebaug. When Comdr. Sperry came up for promotion to his present grade Comdr. Ludlow in reply to the usual interrogatory concerning Comdr. Sperry's fitness for promotion, stated that he did not consider him qualified. The discrepancy in his statements were brought to the attention of the president by Comdr. Sperry's friends and the president gave that officer his promotion. Comdr. Ludlow, it is expected, will either ask for a hearing by the secretary or for a court of inquiry, and if he fails to obtain satisfaction in this way he will probably appeal to Congress. In case he should not be considered eligible for promotion, Com. Francis A. Cook will be nominated for the vacancy now existing in the grade of captain. Should the senate decline to nominate any officer than Comdr. Ludlow, a block will occur which will prevent promotion until the cause is removed.

WORK OF A GIANT.

The Long Car Dumping machine at the Nypano coal dock, Cleveland, is attraciing wide attention. President George W. Short of the Excelsior Iron Works Co., which built the machine, and of the Long Manufacturing Co., which controls the patents, was visited late last week by President S. B. Dick, of the Pittsburgh, Shenango & Lake Erie Railroad, which controls the docks at Conneaut, and Superintendent Blair, of the same line, and gave them a practical exhibition of the workings of the machinery. All three held their watches on the big dumper, which took a car from the track, clamped it, dumped the coal and returned the car to the track in 20 seconds.

THE GREAT SALT WATER FLEET.

The annual statistics of the Bureau Veritas relating to the mercantile navy of the world, which have just been published, give the total number of sailing vessels now afloat measuring over 50 tons as 25,570, with an aggregate tonnage of 9,323,995 tons. Of this number Great Britain comes first with 8,793 ships of 3,333,607 tons. The United States is second with 3,824 vessels and 1,362,317 tons. Norway is third, with nearly 1,000 less vessels than the United States, but nearly the same amount of tonnage. France occupies only the eighth rank, between Sweden and Greece. In regard to the steamers, England counts 5,771 vessels with nearly 10,000,000 tons. Germany, which comes second, has 826 steamers of 1 306,771, tons, France third with 501 steamers and 864,-598 tons, while the United States holds fourth place with 447 steamers and 703,399 tons. These figures relate only to ocean and seagoing vessels, and do not include coasting craft or those employed in lake and inland navigation.

NATIONAL BOARD OF STEAM NAVIGATION.

To the Steam Vessel Owners of the United States:

In entering upon the duties which devolve upon the Executive Committee of the National Board of Steam Navigation in this the twenty-fifth year of its organization, we desire to make a brief review of its past, and a few suggestions as to its future, with a view to encouraging all owners of steam vessels to give us their active support and assistance during the coming session of Congress.

Since the passage of the act of Congress, June 19, 1886, the saving to steam vessel owners and licensed officers has been $402,896 per annum, making a total since the above act ten years ago of $4,028,960. This is exclusive of the hospital tax, which was a saving estimated at $500,000 per annum. Among the other very important measures which were passed by Congress for our relief was the repeal of the law requiring every steam vessel to carry a patent steam recording gauge.

The only unjust act remaining on the statutes against the owners of steam vessels is the United States libel law, which our executive committee propose to take up and endeavor to haye amended at the coming session of Congress so as to protect owners from its present oppressive mode of execution.

CHAS. H. BOYER, Secretary.

THE FREIGHT SITUATION.

As predicted in last week's RECORD, the Lake Superior ore rate promptly went back up to $1.75, with other down freights following suit. Little credit can be taken for this prophecy, however, for the conditions were such as to permit of no other issue. The delivery of one block of ore was contracted for at $2 this week, and while this was between vessel owners, it will undoubtedly have its influence in stiffening the wild rate, which no more than compensates for delays due to inclement weather and the reduction in cargoes necessitated by the low water, not only in the Sault, but in Detroit River and at Grosse Pointe, where lowest stage on record was reached this week. The Duluth and Fort William grain rates are firm at 6c, with a fair demand for boats.

The Escanaba ore rate is $1.20 to Lake Erie, and the Chicago-Buffalo corn rate is 2¾c. The feeling in Lake Michigan freights is very easy at these figures.

The coal freights seem to cut a rather insignificant figure just now. The rate is no object. If a vessel wants a load she takes it, but if it is possible and profitable to hurry back for an ore or wheat cargo, that is done.

ORITUARY.

CAPT. JOHN FERGUSON.

Capt. John Ferguson, of the tug O. B. Green, whose death was occasioned by the explosion of the tug Morford's boiler, had been in the employ of The Dunham Towing and Wrecking Co. 16 years, and was one of the very best and most universally respected tug captains in Chicago, and his sudden and shocking death is most sincerely regretted by a host of friends. His funeral took place Monday afternoon from his late home at 55 Diversey Place, under the auspices of the Covenant Lodge of Masons, of which he was a member. A deputation of the American Association of Masters and Pilots of Steam Vessels, of which the deceased captain was a member, also attended, and the sidewalk and street were crowded with the personal friends of the late captain, amongst them being a large assembly of marine men. Nearly one hundred carriages, filled by relatives and friends, followed him to his last resting place at Rose Hill cemetery. The deceased was born in Buffalo in 1846. He leaves a widow and one son aged 19 years to mourn the loss of a good kind husband and father.

At a meeting of Harbor No. 33, of American Association of Masters and Pilots of Steam Vessels, held in their hall October 26th, the following resolutions of condolence were reported:

Whereas, Our esteemed brother, Capt. John Ferguson, has been called from our ranks to join his brothers who have passed to the other side of earth life; therefore be it

Resolved, That in this sudden and unexpected death, Harbor No. 33 has been call upon to part with a worthy brother Captain, his family a loving husband and kind and affectionate father, and the comunity a good citizen.

Resolved, That Harbor No. 33 extend to the bereaved wife, children and relatives of our deceased brother our deepest sympathy in their sad bereavement, and the great loss of one so near and dear to them.

Resolved, That during life, while in the enjoyment of health, it is a consolation to know that he was true to his obligation as a husband and father, in providing that financial protection for his wife and children which the order of Masters and Pilots furnishes the dependents and beneficiaries of its members, thereby proving that he was an exemplary citizen and practical Christian.

Resolved, That his surviving brothers of Harbor No. 33 will long cherish his many good qualities, and keep green his memory.

Resolved, That as an evidence of the loss of one of our most valuable and esteemed brothers the charter of the Harbor be draped in mourning for thirty days.

Resolved, That a copy of these resolutions be engrossed and presented to the family of our deceased brother, and a copy published in the daily papers of this City, and the MARINE RECORD.

CAPT. GEO. TEBO,
CAPT. J. R. SINCLAIR,
CAPT. A. C. JOHNSON, } Committee.

Charles Dick, engineer of the tug T. T. Morford, who lost his life through the explosion of her boiler, last Saturday, had been in the employ of The Dunham Towing and Wrecking Co. seven years and was one of the most careful of tug engineer and was much respected and liked for his sterling qualities and kindly disposition and his sudden taking away is much regretted. His relatives live near La Porte, Ind., where his body was taken for burial on Monday.

LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers, and im rove the character of the service rendered to the public.

PRESIDENT.

WILLIAM LIVINGSTONE, - - Detroit, Mich.

SECRETARY.

CHARLES H. KEEP, - - - Buffalo, N. Y.

TREASURER.

GEORGE P. MCKAY, - - Cleveland, O.

COUNSEL.

HARVEY D. GOULDER, - Cleveland. O.

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James Corrigan,	Cleveland, Ohio.	J. J. H. Brown,	Buffa o, N. Y.
H. A. Hawgood,	Cleveland, Ohio.	David Vance,	Milwaukee, Wis.
Thomas Wilson,	Cleveland, Ohio.	R. P. Fitzgerald,	Milwaukee, Wis.
M. A. Bradley,	Cleveland, Ohio.	John G. Keith,	Chicago, Ill.
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Thomas Wilson,	Cleveland, Ohio.	Alvin Neal,	Port Huron, Mich.
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P. P. Miller,	Buffalo, N. Y,	Jesse Spaulding,	Chicago, Ill.
John Gordon,	Buffalo, N. Y.	C. A. Eddy,	Bay City, Mich.
W. Bullard,	Buffalo, N. Y.	Alex. McDougall,	Duluth, Minn.
Edward Smith,	Buffalo, N. Y.	F. J. Firth,	Philadelphia, Pa.
H. M. Hanna,	Cleveland, Ohio.		

FLOTSAM AND JETSAM.

More Chicora wreckage has been coming ashore of late.

The Faxton has been withdrawn from the Bay City-Alpena route, being too small to make business profitable.

It is now proposed to raise a fund for the late Gen. O. M. Poe's family, instead of erecting a monument at the Sault lock.

The Buffalo Fire and Marine Insurance Co. has paid Capt. Hi. Henderson $1,500, their proportion of the loss on the C. H. Johnson.

The Lora will finish the season by plying between Cleveland and Gladstone, touching at Detroit, and carrying overflow freight for the Soo lines.

Capt. H. Harkins, who recently purchased the little schooner Norman, will soon leave with his vessel by way of the Fox and Wisconsin Rivers and the Wisconsin and Mississippi for the Gulf of Mexico, to engage in the oyster trade with headquarters at Mobile, Ala.

The Ottawa & French River Canal Company has asked the Canadian government to guarantee $15,000,000 4 per cent bonds to insure the construction of a canal nine feet deep from the St. Lawrence to Georgian Bay. The Ontario and Quebec government will be asked to grant 10,000 acres of land for every mile of canal constructed.

At 9:30 a. m. on Monday, October 21, the Inter-Ocean Transportation Co.'s steamer Maryland commenced unloading at B. Uhrig & Son's dock, Milwaukee, and at 10 p. m. October 22, she left the dock for Escanaba, 3,150 tons of soft coal having been discharged in the meantime. This performance is a record-breaker for Milwaukee.

The master and owners of the steamer Maggie Duncan, recently ashore at Harrisville, Mich., speak in the highest terms of Capt. Henderson and his crew, of the Sturgeon Point life-saving station. who gave valuable assistance while the vessel was on the beach. The Duncan had on board 650 tons of Spiegel ore from Germany, loaded at Buffalo for Chicago.

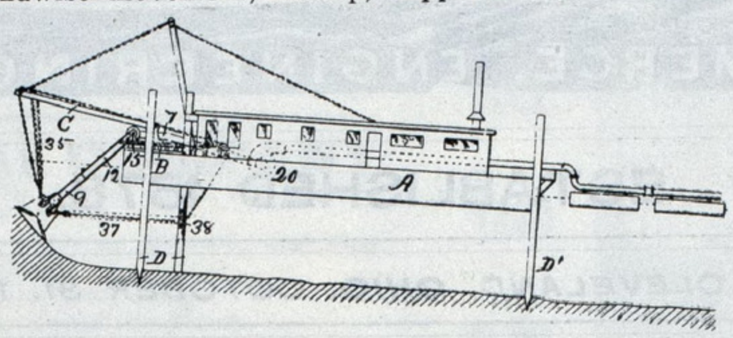
Capt. Silversides, of the wrecked schooner Severn, which was the consort of the ill-fated Africa, charges that the man Bradley, who was credited with making such a gallant rescue of the crew of the Severn after she had been beached at Stokes' Bay, made a demand on each sailor for $5 for having saved his life and $15 in addition for boat hire. None of the men had the amount of money demanded, and Bradley, it is charged, seized all their personal effects and the salvage from the wreck to satisfy his claim. Silversides made complaint to a magistrate at Wiarton and a warrant was issued for the arrest of Bradley.

NEW PATENTS.

Following is a list of new patents which have been recently awarded on inventions bearing on navigation, marine trade and relative matters:

548,242. Dredging Machine. George W. Wood and Hugh B. Alexander, Chicago, Ill. Filed Nov. 24, 1894.

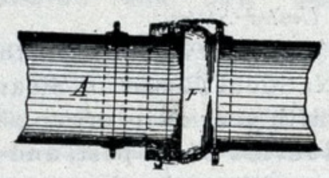
Claim.—In a dredging machine, the combination with a suction pipe, having a telescopic extension, of the endwise moving bars, to which said extension is secured, the frame timbers, means for loosely retaining said bars in relation to said timbers to permit of an endwise movement, a scoop, supported on the ends of



said bars and secured to the suction end of the telescopic extension of the suction pipe, and means for imparting an up-and-down rocking movement to the outer end of the suction pipe and supporting frame.

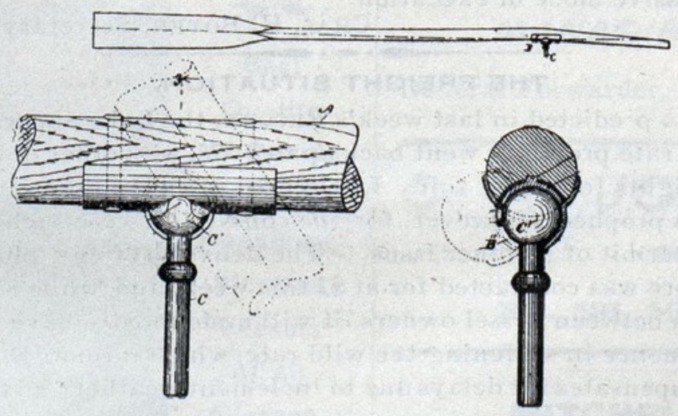
548,503. Discharge Pipe for Dredgers. Lindon W. Bates, Chicago, Ill. Filed March 4, 1895.

Claim.—In combination with pipe A provided with grooved collar C; pipe E provided with mouth-piece F and an annular tube seated in said collar and adapted to be expanded to bear against the inner face of the mouth piece; a pivotal connection between the two pipes; and a bail G, connected at its ends to the side of one pipe, and at its center to the top of the other pipe, In combination with pipe A provided with collar C, tube D, and band B; pipe E, provided with mouth-piece F and band H; a stud *b* projecting from band H; studs *a a* projecting from band B; and a ball G connected at its ends with studs *a a*, and slotted to receive stud *b*. In combination with two pipes; means for flexibly connecting the pipes; a mouth-piece secured to one of said pipes; and an annular tube applied to the other pipe and designed to be expanded by a fluid so as to bear with pressure against the mouth piece.



548,186. Oar and Oar-Lock. John Forbes, Painwell, Mich., assignor of one-half to James B. Smith, Van Wert, Ohio. Filed April 19, 1895.

Claim.—The combination of the oar, A; the socket plate, D, inserted into the under side of the same with a suitable projection D′, thereon to hold it in place; an elastic cushion E, between said socket piece D, and the oar; a post C, with a ball C′, at the top thereof; and a plate, B, on the under side of said oar, with a socket



portion B′, formed in the under side thereof containing an elongated opening extending in the direction of the oar and branched to one side at the center to permit of turning the oar a quarter over to permit of a proper feathering of the oar, all acting together.

548,489. Launching-Table for Dumping-Scows. Scott Webber, Pigeon Cove, Mass. Filed May 27, 1895.

548,289. Steering Apparatus. John Bonner, Tiburon, assignor of one-half to Charles W. Mott, San Francisco, Cal. Filed Nov. 5, 1874.

A full description of these patents can be obtained by sending to the Patent Office, Washington, 14 cents for each, and mentioning THE MARINE RECORD.

THE HOGAN WATER-TUBE BOILER.

The Hogan Boiler Co., of Middletown, N. Y., manufacturers of stationary and marine water-tube boilers, are just entering into competition for the lake trade, and are sending out circular letters, with blue prints and printed matter, to lake builders and owners. They present in their letter, the following statements:

In this boiler, steam as it is produced in the tubes cannot retain any portion of the surface uncovered by water, because its free escape from each tube into the steam space is provided for. It is the want of this provision that causes tubes in water-tube boilers to bend, sag, burn or burst, no matter how thick or how well they are made.

The quick escape of the steam from each tube is one of the reasons why steam can be raised from water at 60° in half an hour in our boilers. The other reason for this result is that no tube is subjected to an irregular strain. The feed water as it enters the boiler is raised to the temperature of the water within the boiler by weighing in small currents with the water of the boiler, which is contained in surface not exposed to the heat of the gases. Precipitation takes place here, and the deposits fall to the lower drums, which are not exposed to the direct action of the heat. Scumming is going on at all times by the descending currents to the lower drums without leaving the main blowoff open. The water line is always perfectly steady; that is, it is not affected by ebullition. It is impossible for water to pass out entrained with the steam. These boilers work generally at a rate of efficiency equal to 75 per cent of the heat units, with either hard or soft coal. There is no part of this boiler subjected to an irregular strain, and no part of it can be over-heated.

The company has issued a new edition of "Truths and Roofs," its pamphlet showing up the features of the Hogan boiler as compared and contrasted with other boilers. It contains the following claims:

"The provision for the combustion of the fuel and the distribution of the heated gases in relation to the heat-absorbing surfaces of steam bollers has received little, if any, attention. No change has been made since the first forms of the Scotch marine boiler or the 'straight' water-tube boiler of the Babcock & Wilcox type, and the horizontal tubular boilers were built. In these boilers the space beneath the heating surfaces above the grate varies in height from 14 to 28 inches. The proportional acres of the flue tube openings in marine boilers, and between the water tubes in water-tube boilers of the above named type, varies from 22 to 35 square inches per square foot of grate area. In the Hogan boiler the space beneath the heating surfaces above the grate is from 18 to 42 inches in height, and the flue area around the water tubes is from 90 to 50 square inches to each square foot of grate, the areas reducing as the distance from the grate increases. The result is that in the Hogan boiler a large volume of gases at relatively high temperatures is maintained around all the tubes and heating surfaces; and with a forced draft of one or two inches of water pressure a square foot of heating surfaces will evaporate twice the quantity of water that the same surface will evaporate with a forced draft of 6 to 8 inches of water pressure in a Scotch-type or straight tube boiler.

"In the Hogan boiler the formation of the tubes is such that the most intense heat will not strain the expanded joints nor distort the form of the tubes. The location of the expanded joints prevents any infringement of the heat on the tube plates. In this boiler there are no obstacles, such as headers, stayed tube plates, etc., to the free expansion of all tubes.

"In the Hogan boiler each tube delivers, above the water surface, the steam as it is produced. There is no hindrance in the form of water to the exit of the steam from each tube. The higher the temperature of the gases the more rapidly steam is produced, and the greater the tendency to superheat the steam. Wet steam cannot escape from a Hogan boiler. A mechanical steam extractor returns the steam from the water, which falls back and passes down the circulating tubes.

"The heating tubes in the Hogan boiler do not require the use of scraper or pick, as in the 'straight' water tube boiler. This has been demonstrated in practice. A Hogan and a Babcock & Wilcox boiler are located in the same city. Each boiler uses the city water. Every month the B. & W. boiler is cleaned, scraped and picked. Scale from ⅛ to ⅜ inch in thickness is regularly re-

moved. The Hogan boiler has now entered its second year; three examinations have been made and no scale has been found. A soft deposit has been found in the distributing mud-drums, but no hard scale has been brought into existence.

"A boiler composed of the least number of parts is more desirable than one composed of many. A boiler composed of one or more steam steam shells, 'straight' four-inch tubes, cross boxes of irregular forms, headers with innumerable covers and joints, cast mud-drums with half a dozen or more connections, a dozen or more connecting nipples, buried in a mass of brickwork, covered with soot on the flue side and with scale on the water side, may be said to be a boiler of the past no matter how many may now be in existence; and such a composition of parts for a steam boiler is fully entitled to the term 'sectional.'

"A properly designed steam boiler consists of one steam cylinder, 2-inch bent tubes, two distributing drums, one wrought iron or steel mud-drum, with two connections and five manhole covers, all placed above the grate level. The tubes are directly above the grate and no soot accumulates on them on account of the intense heat, and no scale forms because no sediment is permitted to enter these water spaces. The whole is enclosed in a non-conducting material. Such a boiler is a unit, and no case sectional. This is the Hogan stationary and marine boiler."

TWENTY-FIVE YEARS OLD.

With the November Century the magazine sets out on the second twenty-five years of its career. The event is celebrated by a special artistic cover, a new dress of type of individual cut, an editorial apropos of "The Century's Quarter of a Century," and a table of contents indicative of the aims of the magazine as an encourager of literature and art, and as an advocate of progress in political, social, and intellectual things. Mrs. Humphry Ward's new story, "Sir George Tressady," is begun in the number, introducing the reader to an election contest in England, and to life in a typical English country house. One of the characters prominent in the story is "Marcella," the heroine of Mrs. Ward's earlier book. Bret Harte is represented by a short story of Spanish character and California scenes, "The Devotion of Enriquez." Another story, "The Tragedy of the Comedy," is by Chester Bailey Fernald, a new writer who has had much success. Particularly appropriate to the election season is a discussion of "The Issues of 1896," in which the Republican arguments are put forth by Hon. Theodore Roosevelt, and those of the Democratic party by ex-Governor William E. Russell, of Massachusetts. Prof. James Bryce, M. P., discusses "The Armenian Question," and tells of the part that Americans should play in this international complication. A brief letter on the same subject by the Duke of Westminster is also presented. Prof. Sloan's "Life of Napoleon" reaches the period of the creation of the Empire, and is illustrated with the care and the profusion that have hitherto marked this work. A familiar little essay by Mr. W. D. Howells is devoted to "Equality as the Basis of Good Society." There is a study of the Italian actress Eleonora Duse, by J. Ranken Towse, and Mrs. Schuyler Van Rensselaer has an appreciative consideration of "Robert Louis Stevenson, and His writing." The latter article is accompanied by a reproduction of the striking bas-relief of Stevenson, made by his intimate friend, Augustus St. Gaudens. In the line of art there is a paper on "Mural Decoration in America," by Royal Cortissoz, with reproductions of the work of La Farge, John S. Sargent, Abbey, Simmons, and Dewing, and a brief characteristic bit of autobiography by the French genre painter, Vibert. The poetry of the number is by James Whitcomb Riley, W. C. Richardson, Reginald Gourlay, and R. W. Gilder.

NATIONAL WATERWAYS CONVENTION.

The National Waterways Association, at its convention in Vicksburg, Miss., last week, adopted by acclamation resolutions in favor of the Nicaraguan canal, advocating the fostering of the commerce of the Great Lakes and the work of the International Deep Waterways Association. The connection of the Great Lakes with the Ohio and Mississippi is strongly commended to Congress. The resolutions also set apart the second Tuesday of each year as Waterways Day.

TOWING BY TROLLEY.

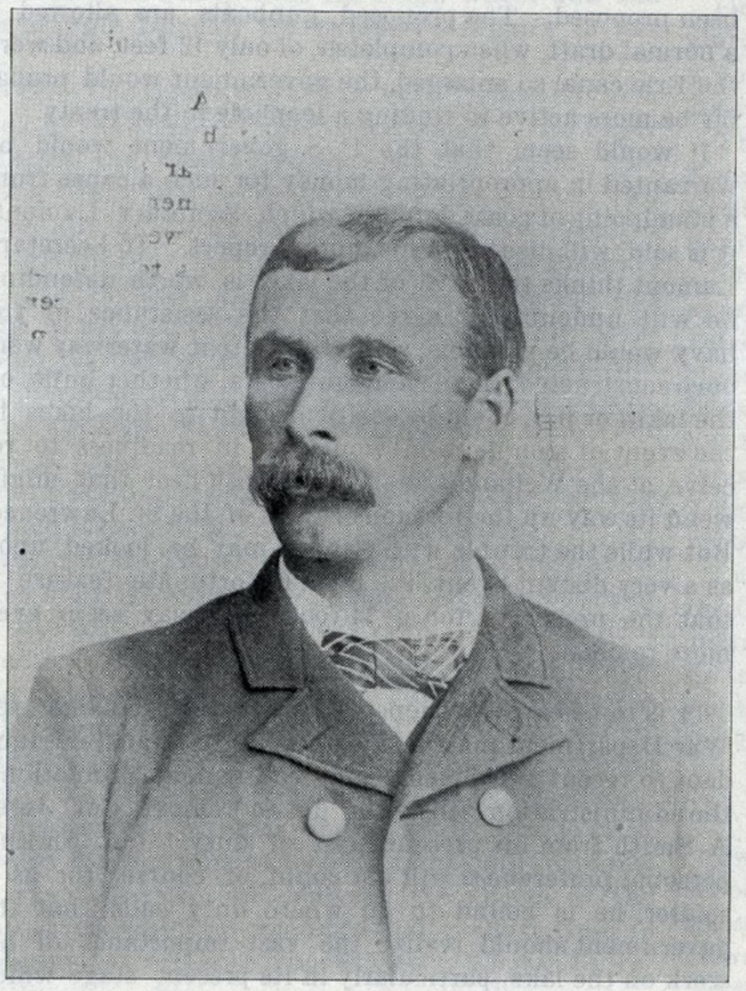
After a number of private experiments with the electric towing system on the Erie Canal, a public test was given at Tonawanda Saturday, which showed the system to be feasible. The system is the invention of Richard Lamb, a native of Norfolk, Va., and the designer of the Corliss engine, made world-famous at the Centennial Exposition. It is an electric cableway, and was first used in hauling logs out of North Carolina swamps. The experimental posts, cables, and brackets were put up along the line of the Erie Canal at Tonawanda under the superintendence of Mr. Lamb and Mr. Frank R. Hawley, the promoter of the enterprise. The power used was generated by the Niagara Falls Power Co.

MARINE RECORD Life Savers' Series.

CAPT. CARL ANDERSON.

During the late gales on Lake Michigan the Sturgeon Bay Canal life-saving crew have been equally active with their brothers at Pentwater in their very successful efforts to save the lives and property aboard several unfortunate Lake Michigan vessels.

Capt. Anderson was born in 1856, being a native of Norway. From the time he was large enough to lift an oar he has made his living upon the water, by boating and fishing. Before he entered the service he had the splendid record of having saved five persons from



CAPT. CARL ANDERSON.

drowning. He entered the service in 1886, as surfman No. 7, and by faithful and capable work went through all the numbers, and was surfman No. 1 for two years before he was promoted, in 1894, to be keeper at the Sturgeon Bay station, filling the vacancy left by Capt. Boutin, who was transferred, about midsummer of last year, to the station at Milwaukee. All lake men appreciate the large amount of work which the Sturgeon Bay Canal crew has on its hands. Capt. Anderson made the most of his opportunities while in the ranks, and his rapid promotion was warranted by his activity, bravery and good judgment, combined with the facts that he is a Christian man and a total abstainer from intoxicating drinks.

THE ARENA'S STEP FORWARD.

The Arena, with its November number, closes its sixth year, having during this period climbed to a foremost place among the American reviews. Falling in line with the growing disposition to place magazines within the reach of the great classes of cultured people with limited income, which, by reason of free schools and other educational facilities, is larger in America than in any other country in the world, the publishers announce a reduction in price from $5 to $3 per year. Notwithstanding this reduction, the prospectus shows a large and brighter array of contributing talent than ever before. The Arena is probably without doubt the most popular review in America, and no pains will be spared to merit this high estimation.

The November Arena contains a beautifully illustrated article of English travel by the editor, Mr. B. O. Flower, entitled "Strolls Beyond the Walls of Chester;" Senator John T. Morgan, whose portrait appears as a frontispiece, in an able article on the silver question sets forth the position of the South, and furnishes reasons for her desire for free coinage which furnish a sufficient defence against importations of sectionalism. Professor George D. Herron writes fully upon "The Society of Jesus' Religion," and Rev. W. E. Manly, D. D., presents an opening paper in proof of his assertion that "Hell is no Part of Divine Revelation." Hon. James M. Ashley, in a paper entitled "The Impending Political Advance," replies to queries of the editor in regard to frauds in internal elections, the possibility of voters in state having a majority of Presidential electors, preventing, by concurrent action, the election of a Vice-President; and whether the voters of the United States, in their choice of Congressmen, avail themselves of any practical system of proportional representation without a change in the constitution. Dr. Charles Rudolph writes on "The Unrightousness of Government" from the standpoint of a philosophical anarchist. Professor Frank Parsons opens a series of papers on "The People's Lamps," with an exhaustive, but thoroughly interesting paper on electric lighting, and Dr. Alfred Milne concludes his demonstration that vacination does not furnish the immunity from disease that is popularly supposed. Margaret Peeke continues her series of articles on "Practical Occultism," her topic for this month being "The Will and its Training." Social qustions are strongly pictured in a story by Dr. Willis Mills, "In Foro Conscientiae." Helen H. Gardner continues her social purity papers. Several new books are reviewed by able critics, and the editor's notes on current events make this issue one of the most valuable of the year.

A FOREIGN ORDER FOR THE CARNEGIES.

The Carnegie Steel Co., Ltd., has received advices from St. Petersburg that the Russian government has tested a plate of patent carbonized reforged steel that gave extraordinary resistance. It has therefore placed an order with the Carnegie Steel Co. for 1,100 tons. It is exactly the same kind of steel recently tested by the United States Government at Indian Head, where it broke the record. The price obtained is equal to that paid by the United States. Four or five months' work is thus guaranteed to the Homestead plant, which has about finished the orders for the United States government. The Carnegies furnished both plates and angles for the schooner Tyrone, whose bottom made such a good showing, as described last week.

VISIBLE SUPPLY OF GRAIN.

As compiled for THE MARINE RECORD by George F. Stone, Secretary Chicago Board of Trade, October 26, 1895.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY. Bushels.
Albany	.....	12 000	92 000	.....	13,000
Baltimore	554 000	295 000	218,000	70,000	.....
Boston	427.000	167 000	8,000	.....	.....
Buffalo	1,948,000	230,000	45,000	187,000	949,000
" afloat	.....	.....	.....	.....	.....
Chicago	17,429 000	1.459.000	379,000	187,000	94.000
" afloat	.....	.....	.....	.....	.....
Cincinnati	45,000	15 000	41,000	43 000	126 000
Detroit	506.000	30,000	29.000	13,000	2,000
" afloat	.....	.....	.....	.....	.....
Duluth	5.279,000	.....	217 000	103 000	750,000
" afloat	.....	.....	.....	.....	.....
Indianapolis	114 000	7 000	.....	.....	.....
Kansas City	1 224 000	5 000	63,000	19,000	.....
Milwaukee	529 000	.....	11.000	52 000	156,000
" afloat	.....	.....	.....	.....	.....
Minneapolis	11 970 000	.....	376,000	68,000	165,000
Montreal	319.000	1.000	46.000	3 000	7,000
New York	4.577.000	156 000	897,000	25.000	9,000
" afloat	107 000	.....	.....	.....	69,000
Oswego	39 000	50 000	.....	.....	30,000
Peoria	106,000	22 000	430 000	4.000	2,000
Philadelphia	237,000	70 000	252.000	.....	.....
St. Louis	992 000	33 000	549,000	15 000	5,000
" afloat	.....	16 000	.....	.....	.....
Toledo	986.000	250 000	208,000	119,000	.....
" afloat	.....	.....	.....	.....	.....
Toronto	105,000	.....	12.000	.....	10,000
On Canal	510 000	111,000	69 000	.....	500,000
On Lakes	2,483 000	1.876 000	516,000	92 000	1,043 000
On Mississippi	.....	.....	.....	.....	.....
Grand Total	50,486,000	4 805,000	4 458,000	1,000 000	3,930,000
Corresponding date 1894	78 190,000	2 759,000	9 223,000	435,000	3 509,000

THE MARINE RECORD

ESTABLISHED 1878.

PUBLISHED EVERY THURSDAY, AT 144 SUPERIOR ST., (LEADER BUILDING), CLEVELAND, O.

IRVING B. SMITH, CAPT. JOHN SWAINSON, } . . PROPRIETORS

BRANCH OFFICE:

CHICAGO, ILL., ... 238 Lake Street.

THOMAS WILLIAMS, Associate Editor.

SUBSCRIPTION.

One copy, one year, postage paid, . . . $2 00
One copy, one year, to foreign countries, . . $3 00
Invariably in advance.

ADVERTISING.

Rates given on application.

Entered at Cleveland Post Office as Second-class Mail Matter.

CLEVELAND, O., OCTOBER 31, 1895.

WAR VESSELS AND LAKE BUILDERS.

The refusal of the Secretary of the Navy to award to the Detroit Dry-dock Co. the contract for one or more of the gunboats on which this company was the lowest bidder, was, after all, rather to have been expected. The question had become one of a judicial nature, and the administration, like the courts, is indisposed to stultify itself or its deportment by reversing former decisions. The situation and circumstances are the same that they were when the bid of the Wheeler Company, of West Bay City, was thrown out on account of that *bete noir*, the treaty with Canada.

There are two sides to this story, however, as well as to others. Exception may be taken to the claim that a vessel is not a war ship until she is armed; but, this step being taken, and the vessel floated, it cannot always be ascertained from a distance whether she is armed or not. The Canadian law, and the laws of some of the States, forbid the entrance of troops bearing arms; and they do not argue that because a gun isn't loaded, it isn't a gun. Then again, the letter of the treaty cannot be evaded by calling a vessel a hulk until the boat is accepted. A new merchant vessel is not officially considered a boat until she has been enrolled, and receives her official number; but a naval vessel has an official existence almost from the time her designs are completed. She is named, and naval representatives are assigned to duty on her construction. The same is true of other government craft.

But if the truth of the matter were known, it would probably be seen that the refusal to build unarmed gunboats on the lakes arose from a natural dislike on the part of the administration to ask favors from another nation, especially relative to the construction of engines of war that, in the course of events, might eventually come to be directed against that same nation. This is given as a general principle, and not in view of recent events, which, however, would prove an additional incentive for adhering strictly to this principle. If one or two gunboats were built on the lakes they would be compelled to pass through a long stretch of Canadian water to get to the coast; and this at all times, and especially just now, when all arrangements to such an end would have to be made, would prove particularly undesirable. So, after all, while the treaty is assigned as a reason, the bid was undoubtedly thrown out more on a principle of public policy than because of any diplomatic agreement. This same principle was carried out in the decision not to send the battleship Indiana to the dry-dock at Halifax, when the Port Royal dry-dock was declared by the builders to be inadequate; but rather than send a new battleship to a foreign dry-dock on the American coast, the bottom was cleaned, after a fashion, by divers.

All this furnishes an additional reason for a waterway to the coast; but it emphasizes the claim that this waterway should lie entirely in American waters. Any sort of consolidation between the United States and Canada—call it annexation or what you will—is too far distant to be counted on in any calculation. It might as well be admitted now as at any other time that the lake marine interests, as a whole, do not favor a 20-foot channel to salt water; and in view of all the above facts it would seem that the best thing for the commercial, ship-building, and transportation interests of the lake region that the suggestion of Rear Admiral Walker, as given in last week's RECORD, should be followed up—that the Erie canal should be enlarged to a depth of 14 feet. This would cost a great deal of money, it is true, but it would pay this back to the American people in a few years in reduced freight. Such a canal would attract vast quantities of freight now carried by rail because the small draft and slow facilities of the present Erie canal place it out of the question now for transportation of this class of freight. Buffalo would retain her present prestige as a grain handling port, for with the possible exception of Toledo and Detroit, none of the grain shipping ports could load grain cargoes into vessels small enough to go clear through to New York; while the amount of merchandise passing through this port to tidewater would be greatly augumented.

The cost of enlarging this canal to that depth would be immense, even after the canal shall have been deepened will undoubtedly be approved by the voters next month. In fact the expense would be so great that only the to nine feet by the State's expenditure of $9,000,000, which national government could accomplish it. There are probably legal difficulties in the way of appropriating national funds for a waterway wholly in one state; but friends of deep water should push their efforts in this line, even if they are compelled to apply themselves to the division of New York into two states, as has already been proposed. The proposed gunboats are allowed a a normal draft, when completed, of only 12 feet, and were the Erie canal so enlarged, the government would probably be more active in finding a loophole in the treaty.

It would seem that the U. S. government would be warranted in appropriating money for such a cause from a standpoint of coast defense, which Secretary Lamont, it is said, will discuss in his annual report. If Secretary Lamont thinks the coast of the lakes is worth defending he will undoubtedly agree that the assistance of the navy would be valuable; and if a 14-foot waterway were once constructed, these same gunboats, whether built on the lakes or not, could be easily brought to the lakes in the event of trouble; and would be in readiness to receive, at the Welland Canal, any British fleet that might wend its way up the tortuous canals of the St. Lawrence. But while the trouble with Canada may be looked upon as a very distant event, the most unfortunate feature is that the prospects for a 14 foot waterway seem even more remote.

IT is to be earnestly hoped that whatever change the War Department may decide upon in its transfers incident to recent retirements and consequent promotions, the administration will see fit not to remove Col. Jared A. Smith from his present post of duty. Col. Smith's personal preferences will not count, of course, for as a soldier, he is bound to go where duty calls; but the government should realize the vast importance of his work on the lake, particularly in its present stage which involves extensive harbor enlargement at the most important parts on Lake Erie. As for the successorship to General Poe, to which some unthinking marine men sought to assign Col. Smith as a reward of merit, it may be said that General Poe quit this world at a time when his great work on the lakes—that which demanded the highest engineering ability—was at an end. The new Sault lock is so near completion that the last parts have long since been designed; and as for the 20-foot channel, it requires no more engineering ability in its supervision than does a 12 foot channel, probably not so much. The new man who will come to the lakes should be assigned to fill the vacancy at Detroit, where the work is practically of a routine character; leaving Colonel Smith to remain in the post where where he has proven so useful during the few years in which he has filled the post.

ACCORDING to the Army and Navy Journal, the forthcoming annual report of Secretary Lamont, of the War Department, will contain as one of its most important features, statements and recommendations in relation to the coast fortifications of the country. It is understood, says the same authority, that he has given much attention to this matter, and it is expected that he will ask for a considerable appropriation for the work. This would not be an inopportune time for the lake cities to present their claims for appropriations for defensive purposes and for the establishment of a more extensive military representation on the fresh water shores.

VESSEL TRANSFERS.

Messrs. J. C. Gilchrist and R. E. Shuck have purchased nine-fiftieths of the steamer C. W. Elphicke, the interest of D. B. Smith, of Huron, O. They have also purchased the Closse and Bailey interests, giving them control of the boat. The consideration is not stated.

The Wisconsin Steamship Co., has transferred two-thirds of the steamer Thomas Davidson to H. J. Pauly, of Milwaukee, and one-third to H. W. Cook, of Michigan City, for $81,000.

George Boyce, of Milwaukee, has sold one-third of the steamer Water Vail to H. J. Pauly for $17,000, and one-half of the schooner Baltic for $17,000 to the same man.

James O. Wood, of Chicago, has sold his one-eigh h interest in the schooner Baltic to Mr. Cook for $4,750, and a two-eighteenth interest in the steamer Vail for $7,222. Mr. Cook is a member of the firm of Palmer, Cook & Calbick, of Chicago, and is managing owner of these boats.

The sale is recorded of the steamer Egyptian by the Winslow estate, of Cleveland, to Capt. W. A. Whipple, of Detroit, for $35,000. The Egyptain was sold once before to Chicago parties, but was never paid for, and was returned to the estate.

Frank O. Fetter purchased the schooner Moselle from Miller Bros., of Chicago, for $5,000.

The steamer John A. Dix is now owned by the O. S. Richardson Co., of Chicago, having been bid in at marshal's sale for $1,150 It is stated that the claims against the steamer amount about $5,000.

It is reported that the steamer Panther and consort Massasoit, owned by Leander Burdick and C. G. Hadley, of Toledo, are to be sold for $125,000. The names of the buyers are not to be given out.

NOTES.

THE Vancouver Marine Railway, Dry Dock and Manufacturing Company, Vancouver, B. C., will become incorporated with a capital stock of $100,000, to erect a marine railway and conduct a general shipyard at that place.

A DECREE was signed on October 19 declaring Brussells to be a seaport. A canal that will enable vessels of 2,000 tons burden to discharge at the wharves to be built there will be constructed at a cost of $1,000,000.

SECRETARY HERBERT has decided to allow the Herreshoffs to build the torpedo boats, the contracts for which were recently awarded to them, without the usual supervision of an engineer and a naval constructor. The department will not be entirely without representation, however, as the Secretary has detailed Comdr. G. A. Converse, in charge of the torpedo station at Newport, to this duty.

THE contracts for the two proposed battleships have been drawn up and the proofs are being read. They are similar to those awarded for the construction of the vessels of the Indiana type with the exception of the provision relating to premiums. There are three penalties in the contracts for the proposed ships, one for delay, the second for failure to comply with the speed requirements, and the third for overweight of machinery.

THE new wooden passenger and freight propeller St. St. Croix, built by the New England Co., of Bath, Me., for the Boston, Eastport, Me., and St. John, N. B. route, will be put in commission this month. She is 262 feet long over all, 237 feet l. w. l., 40 feet beam, and 26 feet deep; gross tonnage, 2,000. The engine is triple expansion, with cylinders, 26, 40 and 67 inches diameter by 36 inches stroke. The I. H. P. is a little over 2,000. Four Scotch boilers, 12.9 feet diameter and 12 feet long, supplied with Fox's corrugated furnaces. The machinery was built by the Portland Co.

NOTWITHSTANDING the denials of the administration, there is no doubt that the navy is being put into good condition to meet any emergency that may arise. While there is no expectation of difficulty, there are troublesome diplomatic questions that must be met with a firm front. This is particularly true of the Venezuelan question. During the month of August Secretary Olney, as a result of a midsummer cabinet meeting, addressed a note to Great Britain on this question, and during that same month Secretary Herbert issued instructions directing that work on ships under construction be expedited. Secretary Herbert said that he took this action because he was tired of seeing ships lying around navy yards and contractors' ship yards. But little doubt is felt that he was preparing for a possible contingency.

SHIP BUILDING AND REPAIRS.

AN UNEVENTFUL WEEK.

The week has developed very little in the direction of new orders, although several may be placed very soon. The F. W. Wheeler Co , of West Bay City, will probably receive an order soon for a car ferry steamer for Detroit parties, and may be awarded a contract for a large freighter by C. F. Bielman and others. One or two other deals are still in the wind.

It has been reported that the Jenks Shipbuilding Co., of Port Huron, have been looking for a new site along the St. Clair River, as well as the Phoenix Iron & Boiler works, of the same port. An immediate change, however, is apparently not in contemplation, as the former concern is about to lay the keel for the largest steamer it has ever built, the dimensions being 254 feet over all, 240 feet keel, 42 feet beam, and 14 feet depth of hold. This company will launch, on Saturday next, the tug that has been building for the Thompson line, and which will be christened the Hiel B. Buckeridge, in honor of a well-known citizen of Port Huron.

The bids of the Detroit Dry dock Co. on the new gunboats which the government is to build were thrown out by Secretary Herbert, on the ground that the treaty with Canada provides that neither country shall "build or maintain" war vessels on the lakes. Secretary Herbert says that had the language of the treaty been "build and maintain," the Detroit company should have had the contract for two twin-screw gunboats. The company had withdrawn its offer to build the boats at Seattle if necessary.

The Craig Shipbuilding Co. flew into the face of all superstition by launching the steamer Shenango No. 2, on Friday last. No immediate disaster befell, as the launch was very successful, and the trouble she experienced by being stuck in the mud for several days subsequently was a temporary inconvenience, due to low water, and was shared by the other boats in the harbor, The Shenango is so far completed that she can leave at almost any time after the water rises to join her sister ship the Shenango No. 1 on the car ferry route between Conneaut and Port Dover.

At the shipyard of the Globe Iron Works Co. work is well advanced on the bottom of the 432 foot steamer which that company is building on its own account. She is being built on a salt water plan provided for by the British Lloyds, and will merit the highest classification on lake or ocean. Her water bottom will be practically completed before the plating on the sides is begun. The water bottom is over five feet high and is put together on the cellular plan, with plates and angles. The angles come only to the top of the water bottom, except at the ends, and the side plates will be riveted upon Z bars. This provides for an especially strong consruction, and the new boat will be such as to attract wide notice when she comes out.

The Detroit Dry-dock Co. will build the new steel ship for the Wolverine Steamship Co , on the channel system, with a 5½-foot water bottom.

Capt. Bucher, of the steamyacht Minnie D., of Toledo, has had a fine hull built for his new steamyacht Her engine and boiler will be put into her the coming winter, and she will come out in the spring in shape to make it lively for other steamyachts now owned in Toledo. The new yacht is 36 feet over all, 6½ feet beam, and will draw 4½ feet of water

Our Chicago correspondent announces that C. F. Elmes, of that city, has nearly completed a fore-and-aft compound engine with cylinders 8 and 18 by 12 inches, a surface condensor, with regular working pressure of 200 pounds. The engine is constructed of steel, very light and strong, designed to turn from 300 to 400 revolutions per minute. It will be placed in the steamyacht building by E. W. Heath, at Benton Harbor, for Mr. Steffens, of Chicago. George Warrington has built one of his latest design water tube boilers, to be allowed 250 pounds steam pressure, for the same yacht.

GENERAL REPAIR WORK.

The feature in repair work in Cleveland this week is the bottom of the whaleback steamer Samuel Mather, which struck on Ballard Reef, Detroit river, and which is in the Cleveland dry-dock. It was necessary to remove 26 plates and 44 frames, and at least 75 per cent of these must be replaced with new material. The Globe Iron Works Co., is making the repairs. The Mather entered the dock last Thursday, and will not get out before Saturday.

At the Ship Owners' dry-dock the steamer Escanaba, which ran aground three times on her down trip, is in for a new forefoot, some bottom calking, and a new wheel, a very moderate repair job considering what she has gone through. The Margaret Olwill is in for an extensive calking job. The schooners Moravia and Marion Page have been having their bottoms calked, and the schooner Southwest is having her topsides calked. The rebuild on the tug Tom Maytham, of the V. O. T. line, is progressing. The tug is all in frame, with the planking well advanced.

CHICAGO.—At Miller Brothers' shipyard the steamer Mabel Bradshaw is in dry-dock, having her shoe straightened some new bottom plank and some new calking. The tug Halladay was for a new wheel; the fire boat Chicago for some new frames and plank on the bottom, a general overhauling, re-calking and ironing; the tugs Dalton and M. Spencer for repairs to stern bearings; the tug McGordon for some repairs and refastening wheel; the tug Robert Farrant and steamer E. B. Hale for new wheels; the schooner J. B. Merrill for some calking; and the steamer Simon Langell for a new blade on her wheel. The sloop yacht Peri and Druid have been hauled out and will be put in winter quarters.

At the Chicago Shipbuilding Co.'s shipyard the steamer Maritana was in dock for a new wheel and the steamer Maggie Duncan for extensive repairs to her bottom.

DETROIT.—The repair work has been hindered here this week by the unprecedentedly low water. The Fryer arrived from the Sault Thursday of last week. The Fryer was struck just at the starboard hawse-hole, two feet from the stem, by the iron stem of the Corsica. The latter went into the Fryer diagonally from the starboard to the port side, knocking off the foremast and breaking up her bottom to about 20 feet abaft the stem and about 30 feet of her deck and upper works, and twisting her bows over to port She will require new decks and upper works for 50 feet from the stem, but beyond that point she escaped. All her texas and pilot house will have to be replaced, as well as the steering gear, which is said to be ruined beyond repair.

Adam Kiosh, the Indian diver employed on the Favorite, added more laurels to his already great reputation by his wrecking work on the Fryer. About 15 feet from the stem was built a bulk of one sheet of three-inch and a second sheet of two-inch stuff, and this was braced by seven 12x12 beams spiked upright and six of the same size placed athwartship. Just forward of this bulkhead was set another beam of 12x12 inches as a bracer between the two sides of the boat. Beside that the forward hatches were braced for additional strength. Canvas was nailed over and between the sheets of the bulkhead, after which it required but a short time to pump her out. It will cost from $15,000 to $20,000 to repair the damage. She was surveyed in the Detroit drydock, and then pontoons were placed under her and she left this dock, intending to go into Clark's drydock. This has been so far prevented by the low water, although her spars and deck machinery have been removed to lighten her.

The John Craig had her holes patched up temporarily and went to Buffalo with her wheat, the whole cargo of which was wet. The swelling of the grain humped her spar deck for three-fourths of its length.

BUFFALO.—The schooner Tasmama collided with the breakwater in a heavy sea one morning last week, punching a bad hole in her bow. Tugs finally got her in, and she went into dry-dock for repairs. The Louisiana and Russia, both in tow of tugs, collided in the river Sunday, and the Louisiana was compelled as a result to repair some of the planking in her starboard bow. The new steal lumber steamer Simon J. Murphy, which struck on Ballard's reef, is also repairing here. Although her bottom is sheathed with wood, it was forced four inches, and the sheathing was cut up to the bilge.

WEST SUPERIOR.—The steamer America is in dock here for repairs of the damage sustained in her recent collision in the Sault. The R. E. Schuck, and tugs Edward Fiske and W. B. Castle were in for calking and other repairs. The Vega is expected in for a large repair job, due to stranding.

REPAIR NOTES.

The steamer H. B. Tuttle, after dropping the H. S. Richards, which afterwards foundered, in Lake Michigan, went into Manitowoc with stern bearings and stern pipe gone, having lost them in the gale. She repaired at Burger & Burger's dryd ck.

At Reiboldt & Wolter's shipyard, Sheboygan, Wis., the schooner Quickstep, which went ashore south of Sheboygan last spring, is on the boxes receiving a rebuild.

NOTICE TO MARINERS.

GETTING READY FOR WINTER.

Notice is hereby given that spar buoys will be substituted for the iron buoys in Lake Michigan and Green Bay on the following dates. The spar buoys will be of full size and colored in the same manner as the iron buoys they replace:

Green Bay City, Nov. 15; Sturgeon Bay, Nov. 20; Green Bay, Nov. 21 and 22; channels between Green Bay and Lake Michigan, Nov. 23; Fox Island shoals, Nov. 24; Mackinac Straits and channels north and east of Beaver Island group, Nov. 25 and 26; off Sheboygan, Wis., Nov. 27; off Milwaukee and Racine, Nov. 28; off Chicago, Nov. 30.

By Order of the Light-House Board:

J. H. DAYTON, Commander U. S. N.
Inspector 9th L. H. District.

CHICAGO, Oct. 25.

NOTES FOR NAVIGATORS.

On account of the low water, the Lake Carriers' Association will ask the Canadian government to establish a number of lights and buoys along the shore of Lake Erie and in Detroit River.

The tug Stone, with the schooners H. P. Baldwin and Superior, went ashore three miles off Point aux Barques, light, Lake Huron Wednesday, the bell buoy there having been carried away.

The Light-House Board will try to secure additional appropriations for lights on Lake Erie, the money devoted to their erection being insufficient. These include lights at the north and south end of Grassy Island, Detroit River, and the Maumee Bay range lights. A new light-house is wanted out in Lake Erie, to mark the entrance to the new straight channel into Toledo. When it is erected the Turtle Island light will probably be abandoned.

Lake captains have received from Ensign Cole, of the Cleveland branch of the Hydrographic Office, a circular letter making inquiries about a rock supposed to lie in Hay Lake Channel about 1,000 yards NNW of the red light off Nine-Mile Point and about 200 yards out of the course.

CASUALITIES OF THE WEEK.

Two very heavy losses have occurred this week. The schooner H. C. Richards, of Cleveland, iron ore laden foundered early Monday morning and sank in 600 feet of water after being cast off by her steamer, the H. B. Tuttle, which had become disabled. The crew escaped in the yawl. The Richards was covered by insurance.

In keeping well off Keweenaw Point in the gale on Lake Superior Tuesday, the Centurion rolled out the other side of the bed, and fetched up on a reef at the west end of Isle Royale. She released herself by jettisoning $130,000 worth of copper and flour, and put back to Duluth. Not only her water bottom but the bottom of her hold was badly damaged.

The schooner Mystic, hailing from Chicago, got on Pilot Island last week, and was stripped and abandoned. She was built at Milan, O., in 1866.

The schooner George W. Davis, coal laden, went on a reef at Hoover's Point, on the Canadian shore of Lake Erie, near Port Maitland, Saturday. The crew were taken off and a short time afterwards the Davis floated off, drifted two miles and sank in 30 feet of water. She will probably not be raised.

The Grummonds have again given up their contract to relieve the Moonlight and Kent, ashore near Deer Park, and Capt. B. B. Inman, of Duluth, is now working on them.

WHAT would European shipbuilders and ship owners do without the United States carrying trade? It is more than a mine of wealth to them. It is the very life of the business of most of them. And yet Americans, metaphorically, sit on the fence and watch the increase of the trade.—Maritime Register.

MARINE LITIGATION.

A QUESTION OF STRIKES AND DEMURRAGE.

Empire Transportation Co., and Mitchell S. S. Co.,
vs.
Philadelphia & Reading Coal and Iron Co.

On June 30, 1894, defendant chartered the steamer Gilbert, whereof the Empire Transportation Co. was owner, to carry a cargo of coal from Buffalo, N. Y., to West Superior, Wis., there to be delivered to itself as consignee. The bill of lading is as follows:

"Shipping in good order and well condition, for account and at the risk of whom it may concern, on board the W. H. Gilbert, whereof G. A. Minor is master, the following described property, to be delivered in like good condition as addressed in the margin, or to his or their assignees or consignees, upon paying the freight and charges as noted below, if cargo is delivered during the current season of navigation. If not so delivered then the freight is to be paid at going rates when delivered (the dangers of navigation, fire and collision excepted.)"

The Gilbert arrived at the dock of the consignee at West Superior on July 4, 1894, but that day being a holiday, according to custom the work of unloading was not commenced. On the morning of July 5, the work of discharging the cargo was proceded with and continued throughout the whole day with a full crew, but on the 6th the men failed to appear for work. On the afternoon of July 5 a general strike was ordered, and took effect on all the coal docks ot Duluth and Superior, as a result of which work on all docks was immediately suspended in both ports. No warning of the impending strike was given, no complaint was made or grevience claimed to exist, but the men quit work simultaneously on all the docks in both ports. On July 6th or 7th the following written notice was served on claimant's superintendent:

"At a joint meeting of the Duluth and Superior committee of the Coal Handler's Protective Union the following scale of wages was agreed upon: Fifty cents per hour for boatmen, $2.25 per day for hoisters, 20 cents per hour for dock hands. And that this scale be binding between employer and employes for one year from date this 5th day of July, 1894, ten hours to constitute a day's work.

Coal Handler's Protective Union No. 6263. American Federation of Labor, West Superior, Wis. (Seal.)

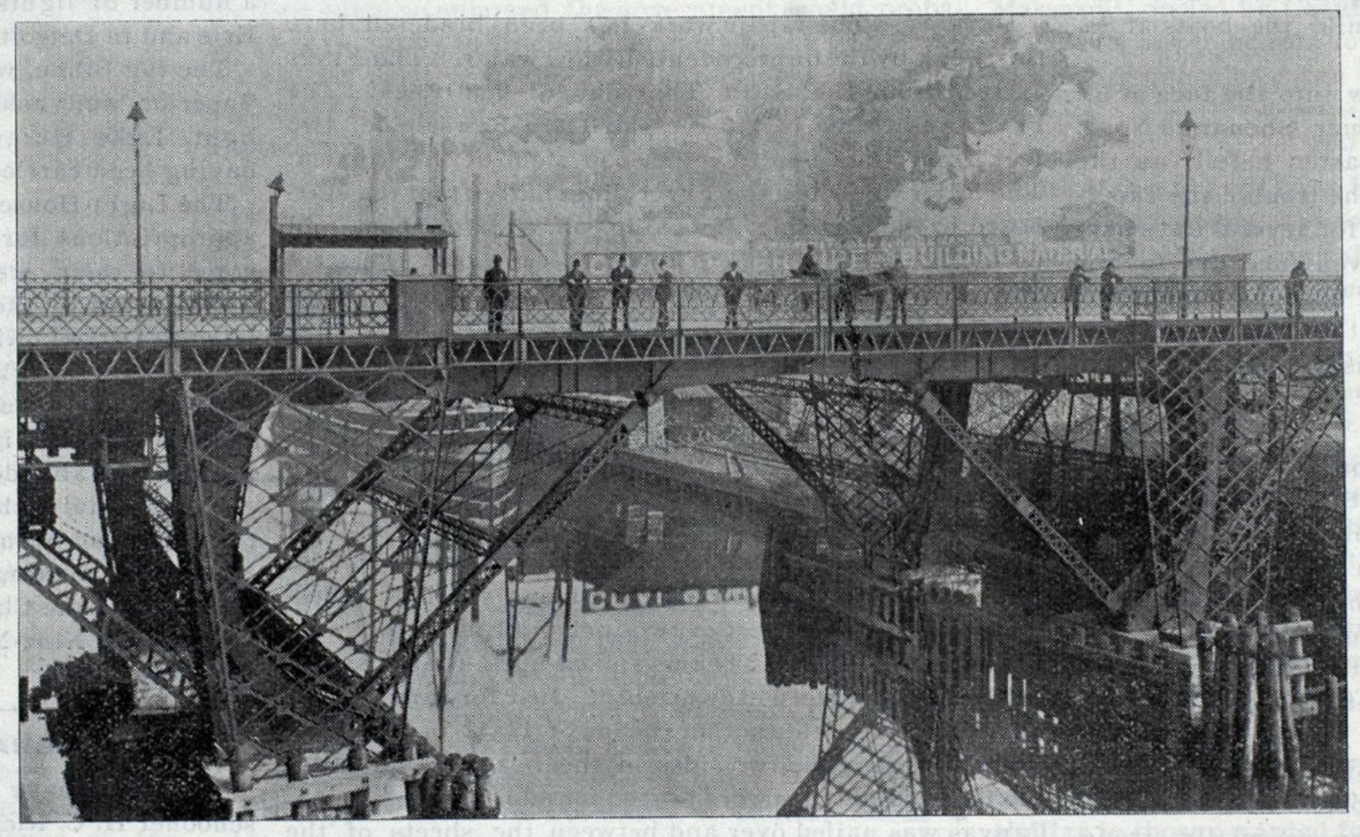
The price theretofore paid boatmen was 40 cents an hour. Plenty of men were willing to do the work at that rate, and that was the amount paid when work was resumed. The defendant, with other dock owners, refused to do this, and attempted to hire men outside, in order to resume operations, but was unable to do so with any practical result by reason of threats and intimidation on the part of the strikers, who made a cordon round the docks and kept men from going to work. The docks were then guarded by sheriffs and policemen furnished by the authorities, but even with this protection the men were afraid to hire out, for fear of violence, and many of them quit work by reason thereof. The work of unloading was suspended from the 6th to the 13th of July inclusive; July 14th it was resumed, the vessel cleared on the 17th, and it is for the delay that the libel is filed. When the bill of lading mentions nothing about demurrage the acceptance of the cargo is evidence of an agreement by the consignee to pay demurrage, as well as the freight; and when it specifies no particular time to be allowed the consignee for discharging the cargo, no lay-days are mentioned; the unloading must be done with reasonable diligence on the arrival of the vessel, according to the custom of the port, or damages can be recovered for detention of the vessel against the consignee. Liability for demurrage does not exist in the absence of an express contract, unless such demurrage is caused by the negligence or fault of the consignee. The consignee is entitled to a reasonable time to unload, taking into consideration the custom of the port, and all surrounding circumstances, and what is a reasonable time depends on such surrounding facts and circumstances.

The consignee on the arrival of the vessel at the dock proceeded to unload her cargo with all reasonable dispatch, when without warning, and without fault of consignee, the men in a body refused to work, and by threats and intimidation stopped those who were willing to work.

It was not a mere question of paying 50 cents an hour for unloading this boat, for this demand was coupled with another that these rates should be kept up for a year, and that every dock owner in Superior and Duluth should become a party to the contract before any boat would be unloaded.

The case of Brown vs. Certain Tons of Coal, 34 Fed. Rep. 913, strenuously relied upon, is perhaps the strongest case cited by libellant. In the case the company was paying 40 cents and the men demanded 50 cents an hour, and would have gone to work had they been paid the amount. The court said: "He (the consignee), higgled over a little difference of 40 cents an hour to those employees, and permitted the vessel to lie there until he could coerce the employees to accept 40 instead of 50 cents, thereby attempting to save himself a mere pittance while subjecting others to serious loss and damages." Here the evidence shows a very different state of affairs, which is not necessary to recapitulate. A decree must be entered for the defendant with costs.

The facts in the case of the steamer Gratwick No. 2 being the same as in this case, a decree for defendant with costs will also be entered therein.



SIXTEENTH STREET LIFT BRIDGE, MILWAUKEE—CLOSED.

ENGINEERS' CHART OF LAKE SUPERIOR.

First Lieut. Charles S. Riche, Corps of Engineers, U. S. A., stationed at Willet's Point, N. Y., has kindly furnished THE RECORD with an advance copy of the new issue of the engineers' chart of Lake Superior. The whole lake is given on a single sheet about 29x52 inches. It is printed in black with the lights indicated by yellow dots. The chart is cast upon the polyconic projection, similar to the old engineers' chart. The bearings on sailing courses are true. Several dials on the chart give the compass variations at Duluth, Madeline Island, Copper Harbor, Grand Island, Whitefish Point, and Sault St. Marie. The distances are given in statute miles, and on the chart is a scale of meters, feet and statute miles, as on the old chart. The soundings are given in fathoms, except in shoals indicated by dotted surfaces, where the soundings are given in feet. Figures on shore indicate the height of the land above the mean lake level. The plane to which sounding for this chart were taken is 602.66 above the mean tide at New York.

HYDROGRAPHIC CHARTS

Of Lakes Erie, Ontario, Superior, Michigan, Huron, and St. Mary's, St. Clair and Detroit Rivers, for sale at the office of the MARINE RECORD, No. 144 Superior street, Cleveland. Prices 75 and 50 cents each.

QUERIES AND ANSWERS.

RESTRICTIONS IN CASE OF WRECK.

To the Editor of The Marine Record:

It has been a question in this vicinity whether the first mate of any boat that is wrecked and in his charge has authority to sell any part of the rigging belonging to the same wrecked vessel, for the purpose of raising money to pay the men for stripping the wreck, and also to keep his own wages therefrom. Would you kindly answer in your next issue?

CONSTANT READER.

HAMMOND'S BAY, MICH., Oct. 24.

In answering this query it must be assumed that the master and owners are both beyond the reach of consultation within the time at the mate's disposal. He is then in fact the master, and is governed by the master's duties and limitations. The necessity creates the law, and if absolutely necessary the master would have the right to sell a part of the fit-out to secure the salvage of the whole, or of a sufficient part to warrant the salvage. This would be just and reasonable, as in case he abandoned it these same men he would have hired, could save the rigging, etc., on their own account, and retain a goodly portion of it under the salvage laws. The mate would not, however, be entitled to sell in order to secure his own pay, or to pay himself from the proceeds of the sales. The master, according to the newspaper accounts of a recent decision in the case of the Nebraska, is even debarred from placing a lien on a vessel to obtain his own salary, although the ground for this ruling is not apparent. The decisions on the points included by the instance you cite, are culled as follows from Desty's Digest of the Laws Relating to Shipping and Admiralty, as determined in the courts of England and the United States:

The master cannot hypothecate, except in great distress, with no other means of relief (The Grapeshot, 9 Wall. 120; Tunno *vs.* The Mary, Bee 120; Patton *vs.* The Randolph, Gilp. 457) and inability to obtain the money in any other way (Burke *vs.* The M. P. Rich, 1 Cliff. 308; The Packet, 3 Mason 255). In case of necessity the master may hypothecate at the port of destination, as at any other port (Reede *vs.* The Commercial Insurance Co., 3 Johns 352). As to necessity, whatever is reasonable and just is legal (The Aurora, 1 Wheat. 96; Gibbs *vs.* The Texas, Crabbe 236); that is, a sufficient necessity, when the circumstances of exigency are such as would induce a prudent owner to order the necessaries (The Grapeshot. 9 Wall. 128; The Medora, 1 Sprague 138). Where the voyage is necessarily abandoned, he may hypothecate (The Robert L. Kane, 1 Low. 380; The Nelson, 1 Hogg. Adm. 169) The necessity creates the law (The Circassian, 3 Ben. 416; The Gratitudine, 3 C. Rob. 240). He cannot hypothecate for money for his own use (Gibbs *vs.* The Texas, Crabbe 236; Fox *vs.* Holt, 4 Ben. 291; Joy *vs.* Allen, 3 Wood & M. 328; Keith *vs.* Murdock, 2 Wash. C. C. 297).

HOW DEEP IS THE OCEAN?

To the Editor of The Marine Record:

What is the average depth of the ocean? What the deepest point? HECTOR.

AHNAPEE, WIS, Oct. 25.

The average depth of the various oceans, as printed in THE RECORD a few weeks ago, is as follows: Pacific ocean, 2,126 fathoms; Atlantic, 2,013; Indian, 1,829; Antarctic, 1,500; Arctic, 845; Mediterranean, 738; Irish, 120; English Channel, 55; Adriatic, 23; Baltic, 22.

Forty-nine hundred fathoms (29,400 feet) without bottom being found is the deepest sounding made. The British surveying ship Penguin found this depth in the Pacific Ocean in latitude 23° 50′ S., longitude 175° 10′ W., northeast of New Zealand and the Kermadea Islands; the wire broke before touching bottom. The deepest sounding prior to this was 4,655 fathoms, near Japan.

The illustrated description of the Craig Shipbuilding Company's plant, referred to in last Saturday's issue of The Blade, appeared in THE MARINE RECORD. THE RECORD is entitled to full credit for the enterprise it exhibited, and The Blade is pleased to notice the vigilant eye THE RECORD is keeping on the marine interests.—Toledo Blade.

SOMETHING NEW IN DRAW-BRIDGES.

(ILLUSTRATED.)

There has recently been erected over the North Menominee canal at Sixteenth street, Milwaukee, a new invention in the type of lift bridges, for which letters patent have been obtained by Mr. M. G. Schinke, assistant city engineer of Milwaukee. It is very different from the rolling lift bridge across the Chicago River at Van Buren street, Chicago, which was illustrated in THE RECORD in its issue of February 28 last, and the subject of this sketch according to the statements of engineers, gives much better satisfaction in its operation. The conditions leading to its adoption were the narrowness of the channel and the necessity of obstructing as little as possible of the valuable dock space along the canal, both of which made it undesirable to use a swing bridge. For these reasons, City Engineer George H. Benzenberg decided to use this form, which he considers the best of the lift bridge type. The bridge was constructed by the Wisconsin Bridge & Iron Co., and much credit is due to Chief Engineer John Geist. Designing Engineer B. L. Norden and Superintendent S. B. Harding, all with this company, for their co-operation in working out the details which go far toward the successful operations of an experimental structure, as the first built of any large type of construction always is.

The bridge forms a link in the Sixteenth street viaduct, which is at an elevation of 38 feet above the surface of the water. It was designed for a live load of 100 pounds per square foot of sidewalk, stringers and floor beams being dimensioned for 16-ton cars, as many as could be placed. The accompanying illustrations, showing the bridge open and closed, are reproduced from photographs procured through the courtesy of City Engineer Benzenberg.

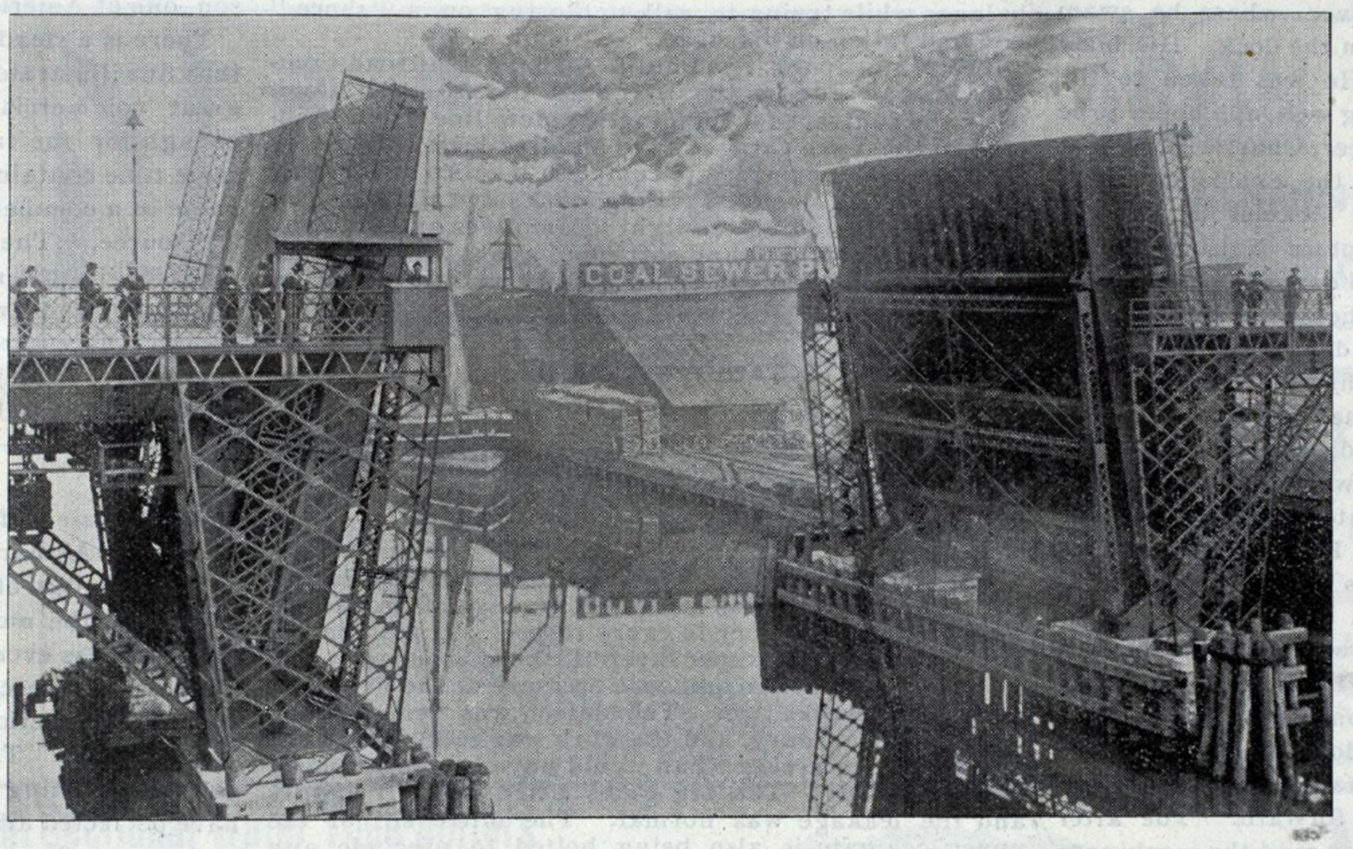
The main girder of each half of the draw bridge is supported at one quarter the distance from its outer end by a brace, or strut connected with the girder by a pivot, and also connected at the abutment in a similar manner. The shore end of the main girder is supported by a roller, which operates upward and downwardin a curved track or slot, so constructed that the pressure of the roller is always normal to the curvefor any position of the main girder; the moving parts are therefore in equilibrium, necessitating no lifting of weights, but only the overcoming of frictional resistance. The center of gravity of the movable portion is not lifted, but is moved backward in a horizontal line. The power to tilt the bridge is applied by another strut attached to the main girder by a pin about one-third of the distance from its outer end. This strut is parallel to the main girder when the bridge is closed and passes along under the stationary portion of the bridge, having a rack near the shore end which gears into a pinion, or large cog wheel fixed to the stationary part of the bridge and operated by the engine. To prevent the shore end of the bridge, where it is attached to the roller, from being depressed under a moving concentrated load, the usual expedient of a latch is provided. Each of the main girders is double, as shown. The webs are 18 inches apart, and are strongly connected by braces. The operating strut is placed between these webs. The girders of the stationary portion are also double, the webs being spaced far enough apart to allow the end of the girder of the tilting portion to move between them. The towers or columns, slotted for the main track, are built up of plates stiffened with angles. The webs of these are spaced the same distance apart as the girders of the stationary part and have braces between them. The edges of the slots containing the track are strengthened by angles on Z bars. The track itself is 1½x7 inches plate steel, and is put only on the inner edge of the slot, against which the rollers press. These rollers are 18 inches in diameter, and have 6-inch treads and 1-inch flanges. They are made of cast steel, and work on 5-inch pins or axles, which are carried by cast steel bearings, fastened to the main girders. To reduce the friction between rollers and axles, spring steel roller bearings, 6 inches long, are provided, on which the rollers turn.

The two supporting struts are each made of two 12-inch channels, double-laced and pivoted at both ends by 6½-inch pins. They are connected by lateral bracing of three laticed struts, one at each end and one in the middle, and by 1¼-inch diagonal tie-rods. The towers have also strong lateral bracing.

The roadway of the bridge on the movable portion consists of a double layer of oak planks laid diagonally on stringers placed on top of I beams, which rest on the lateral girders. In the stationary portion a course of 7-inch cedar blocks is put in on top of the oak planks.

The operating machinery, beside that already described, consists of a line of shafting to which the pinions, or gear wheels, are keyed, and another short shaft, on which is a 25 h. p. motor. Connection between the two lines of shafting is made by an Albro Clem worm wheel. Placed between the motor and the worm are bevel gears which permit the operation of the bridge by hand should any accident happen to the motor.

This bridge has been in continuous service since March 8, and none of the working parts are showing any appreciable wear except the thrust bearings of the motor shaft, which are rather light for the service, and which will be replaced after the close of navigation by heavier ones.



SIXTEENTH STREET LIFT BRIDGE, MILWAUKEE—OPEN.

The bridge possesses many obvious advantages, the simplicity of its operation being chief. This style of bridge precludes in its construction all annoyance from people who desire to remain on the movable part, a very common nuisance in a swing bridge. The danger of carrying away the rigging by too hasty swing is also reduced to a minimum. The general dimensions of the bridge are:

Width of roadway	40 ft.
" " sidewalk, stationary part	10 "
" " " movable	7 "
Grade of roadway shore water	38 "
" " sidewalk " "	38.5 "
Width of clear channel between fenders	68 "
Distance of river piers center to center	88 "
Length of movable parts each	44 "

PENNSYLVANIA COAL PRODUCTION.

The statistics of the mining regions which will be included in the report of the department of internal affairs, shows the production of coal for 1894 in the anthracite and bituminous districts of Pennsylvania to have been 85,306,389 tons, a decrease of 5,295,072 tons from the production of 1893. The production of anthracite coal was 45,506,179 tons, as against 47,179,563 tons in 1893, a reduction of 1,673,384 tons. The bituminous production was 39,800,210 tons as against 43,421,989 tons in 1893, a reduction of 3,621,179 tons. While the production shows this great falling off, the total number of employes in and about the mines has increased. The number employed during 1894 was 226,872 as against 219,821 in 1893, an increase of 7,051.

IN THE ENGINE ROOM.

WHACKING THE INJECTOR.

Too frequently the engineer is observed with a piece of pipe or an old bolt in his hand, industriously pounding away for a few seconds at a time at one of the injectors that supply his boilers, says the Safety Valve. Evidently something is the matter, or he would not be hammering in that manner. Probably some engineers whack injectors and pumps purely from habit. The machines soon require a chronic necessity for whacking, and even if in perfect order at commencement, they are speedily knocked out of shape by incesssant hammering.

By some obscure process of reasoning it is supposed that the engineer hopes to aid the injector in its action by whacking it. Probably it was first started by an engineer who was feeding dirty water. The sediment which collected in the rings and tubes would be displaced by a sudden jar, thus letting the injector go to work again.

Another cause for whacking is brought down from the old power pump. Sometimes its valves used to stick, and a sudden whack or jar would loosen them. The unthinking engineer has applied the same remedy to injectors that he used for pumps, but not with good results. This was to whack an injector into the scrap heap. Not many applications of wrench or gas pipe will be necessary. If any engineer catches himself doing this, let him stop at once and figure out the good thereof. Then let him figure the cost of whacking. An injector will not last long when handled thus, and the cost of replacement should be charged up to whacking. If the maker of an injector had intended to have it pounded and hammered, he would doubtless have cast on and attached thereto a more or less improved form of the old-fashioned door-knocker.

CRACKS IN BOILER PLATES.

The cracking of boiler plates, says a writer in the Locomotive, frequently starts from the edge of the plate opposite a rivet hole, in the girth joint that comes over the fire. Such cracks are often due to distress at the joint, arising from an improper arrangement of the feed pipe, for if the comparatively cold feed water is discharged on or near the fire sheet, it chills the shell in that vicinity and produces a wonderful local contraction of the material, this being enough to start the joints, or even, under some circumstances, to crack the solid plate. Appearing thus at the edge of one of the fire sheets, they extend gradually inward, though they are often stopped by running into the rivet hole, and do not extend further; frequently, however, they run past the rivet hole and progress into the sheet on the further side of it, the necessity of the matter being checked becoming, of course, very important, this being oftentimes practicable by drilling a small hole through the sheet at the very extremity of the crack, this hole to be afterwards filled with a rivet, or it may be tapped and filled with a screw plug.

NEWLY ENROLLED TONNAGE.

Following is a list of lake vessels to which official numbers and signal letters have been assigned by the Commissioner of Navigation, for the week ended Oct 19:

Official No.	Rig.	Name.	TONNAGE. Gross.	Net.	Home Port.	Where Built.
161 078	St. s.	Katahdin	1,380.79	1,103.27	Port Huron	Bay City
116 695	St. s.	Shenango, 2	1 958 12	1,317 98	Toledo	Toledo
3,6 3	Schr.	Berth, Wallace	8 41	7.93	Port Huron	Bay City

PORT DIRECTORY OF THE WORLD.

The British Lloyds have begun the compilation of a port directory of the world. Capt. Thomas F. Murphy is now in New York, engaged in the work. The first edition of 20,000 copies will be issued by subscription.

NEWS AROUND THE LAKES.

EXPLOSION OF THE MORFORD'S BOILER.

Special Correspondence to The Marine Record.

A sad accident which resulted in three deaths and injuries to three others of the employes of the Dunham Towing and Wrecking Co., was caused by the explosion of the boiler on the tug T. T. Morford at 3:50 o'clock last Saturday morning. The tugs T. T. Morford and O. B. Green were towing the steamer Ionia, loaded with grain from Gladstone, up the South Branch of Chicago River. The tugs and steamer had been bridged at the St. Charles Air Line bridge at Sixteenth street, and as soon as the bridge opened they started to go ahead through the draw on the west side, when the explosion took place. The Morford was on the port side of the Green, and when the boiler exploded the dome struck the Green on the port side, carrying away her stanchions, bulwarks and rail, and the pilot house, in which was Capt. John Ferguson at his post, who went with the broken up pilot house into the river and was either killed by the flying pieces or drowned. His body was recovered during the morning. Joe Moffat, deck hand on the Green, was carried over the boiler house and fell on his head on the rail on the starboard side of the tug. Falling into the river he was rescued by engineer William Hynett, and luckily was not badly injured.

On board the Morford the scene was almost indescribable. Capt. Cullman was thrown into the air to a great height and then fell into the river, where he swam around until rescued by persons on the dock. His body and face were badly burned. He was taken to the County Hospital, where he is doing well, and hopes to be out in a few days. The engineer, Charles Dick, was thrown on board the Ionia by the explosion, striking against the pilot house of the steamer as he fell, bleeding and unconscious. Captain Nelson, of the Ionia, carried him into a room and cared for him all he could until medical aid arrived, when he was taken to the County Hospital, where he died at 10:30 o'clock Saturday night. John Erickson, fireman on the Morford was also killed. His body has not yet been recovered. Daniel McRea, deckhand, who was standing at the engine room door was thrown by the explosion against the bridge and then fell into the river. He was rescued by the crew of the Ionia. He had some bones broken in one of his ankles and his feet burned. He is in the County Hospital doing well.

The dome of the Morford boiler went through the wall of the engine room of Armour's F elevator, making a hole large enough to drive a wagon through.

LATER:—A diver who has gone down to the Morford reports that the planking on the starboard bow was torn away, as well as the whole deck forward. The after end did not seem seriously damaged, and the machinery was in good shape. WILLIAMS.

CLEVELAND.

There has been a change of masters on the schooner Marion W. Page as a result of her late mishap. H. Cummings is now sailing her.

Purchasing Agent Ashburn, of the Globe Iron Works Co., lives at No. 415 Cedar avenue, and is fortunate enough to have a lamp post in front of his house. The glare of the gas upon his spacious veranda has proved rather annoying, however, so this summer he has decorated the pane of the lamp facing toward his house with a handsome picture of the yacht Restless, painted on the glass. The shading of the water and the hull of the yacht, softens the glare of the light upon the house, and the picture is an ornament in itself. Mrs. Ashburn is the artist, and her skill meets with warm commendatory criticisms from the passing pedestrians who pause to look at this unique lamp shade.

The mother of Nicholas Servas, a well-known and heartily-liked member of the Cleveland life-saving crew, who was one of the drowned in the disaster to the crew of May, 1893, has written to General Superintendent Kimball from Constantinople, Turkey, to ask if she is not entitled to a pension. Mr. Kimball was obliged to inform her in the negative, although she depended, during her son's lifetime, on remittances which he would send to her. "Nick" was a Greek by birth, a young man of good nature and habits, fond of music, and of an ingenious, mechanical turn. He was the life of the station, and his sad death was long mourned along the river.

Capt. W. S. Mack has brought suit against the Union Marine Insurance Co., of London, represented by P. H. Fleming & Co., of Chicago, to recover $5,000 insurance yet unpaid on the steamer V. H. Ketchum.

Capt. Richard Neville, of the steamer John W. Moore, has the hearty sympathy of all in his bereavement, his infant daughter Alice having died early this week. The Moore is in charge of mate Rudolph J. Walden this trip.

The body of Capt. William Connors, of the schooner Southwest, has been found at Marquette, and was brought here for burial. Foul play was feared, and an inquest was held at Marquette, but the body was in such a badly decomposed coudition that little could be learned. Capt. Connors had many friends on the lakes who sincerely mourn him.

DULUTH AND SUPERIOR.

Special Correspondence to The Marine Record.

The Minnesota Canal Co., the Altamont Canal Co., and the Jay Cooke interests have consolidated to construct a plant for smelting ore by electricity. Andrew Carnegie is said to be interested in the deal. There are on the Masaba and Vermillion ranges vast quantities of ore which will never be used until a method is found to smelt it here, as it would not pay for transporting it. The Cooke interests own all the land for five miles along the St. Louis river, the water power of which is to be used to generate the electricity.

The mills at the head of the lake turned out 84,820 barrels of flour last week. The shipments were 98,965 barrels. The stock at the mills aggregate 86,335 barrels. The rail receipts were 176,100 barrels; shipments, 168,575; in store, 222,265. Wheat receipts were 2,090,838 bushels and shipments, 1,498,831 bushels; other grain received, 2,778,462; shipments, 1,997,565.

The contract for re-building the burned Daisy elevator on Quebec pier has been awarded to the Barnett-Record Co., of Superior. The foundation of the old structure will be used for the new, which is to be the same size, although differently arranged.

Charles Giles, cook on the tug Edward Fiske, then in the Superior dry-dock, was found dead at the bottom of the dock Friday morning. He had evidently lost his balance while trying to walk to the tug on a "shore," and had fallen on his head.

The Minneapolis, St. Paul & Ashland Railroad Company has awarded to the Standard Construction Company the contract for building the new line from Ashland to the Twin Cities. Five hundred men are already at work. It is expected to complete 25 miles of the road this fall. The steel and rolling stock have already been purchased, including ten light locomotives and 500 cars.

The prices of hard and soft coal have again been advanced 25 cents per ton on anthracite and 10 cents on bituminous to the wholesale trade.

SAULT ST. MARIE.

Special Correspondence to The Marine Record.

The tugs Boynton and Brockway, which went to the relief of the stranded schooner Ellsworth, have returned. They could not get nearer than 150 feet to the vessel, but she can probably be dredged off when the weather moderates.

The second test of the upper guard gates and mitre sill of the new lock was made Wednesday and proved the work to be satisfactory in every respect. It will be remembered that the upper layer of the masonry on the sill was raised by the immense pressure at the first test made a few weeks ago. The defect was remedied by bolting the masonry, and the work was accomplished at an expense no greater than would have been had it been done originally. The big gates fitted the sill snugly and the leakage was normal. The mitre sill of the upper lock gate is also being bolted to preclude any similar accident.

An incipient 'longshoremen's strike occurred at the Union dock Tuesday morning of last week, when the schooner Aberdeen was being unloaded. The coal handlers demanded a raise of 20 cents per hour on account of water in the hold of the boat. The demand was shown to be unreasonable, and the men returned to work.

CHICAGO.

Special Correspondence to The Marine Record.

The steamer Denver, which arrived here light from Milwaukee, when going up the river to load grain Friday morning about 4 o'clock, collided with the approach on the west side of Lake Street bridge with such force that she lifted, some of the heavy stones, and knocked off her stem. She went back to Milwaukee for repairs, as the local docks were all occupied.

Work was commenced Tuesday to raise the wreck of the tug T. T. Morford.

The schooner Stafford, which arrived here Monday morning, with lumber, commenced stripping and will go into winter quarters. Captain Oleson says he has had enough of the bad weather and poor freights for this season.

The L. M. L. S. Trans. Company's steamer Peerless, Capt. H. C. Page, light, which stranded on a bar just inside the north pier at St. Joseph, Mich., when running back to that port Sunday afternoon in a heavy gale, released herself just before noon Monday, after being on the bar amidships twenty hours, encountering heavy seas. She has apparently received no damage, but will be examined on her arrival at this port.

The official transfers of the steamers Thos. Davidson and Walter Nail and the schooner Baltic were recorded in the custom house on the 25 inst. The Wisconsin Steamship Co. transferred two-thirds of the Davidson to H. J. Pauly of Milwaukee and one-third to H. W. Cook of the firm of Palmer, Cook & Calbick of Chicago, for $81,000. George Boyce sells one-third of the steamer Walter Vail for $17,000, and one-half of the schooner Baltic for $17,000. H. W. Cook is managing owner of three vessels.

W. L. Webster, who was chief engineer of the whaleback steamer Christopher Columbus during last summer, went through Chicago last Saturday on his way to Cairo to take charge of the U. S. Government dredge at that port with a crew of three assistant engineers, two oilers and two water tenders, and will be engaged in dredging the bars off the botton down the Mississippi River from Cairo. Since laying up the Columbus, Mr. Webster has been engaged as chief engineer by the American Steel Barge Co. at West Superior.

LITERARY NOTICES.

One of the leading features in Harper's Magazine, at the close of this year and the beginning of the next, will be a novel by William Black. The title of the story, Briseis, is taken from its heroine, a Greek maiden who is first introduced to the reader among the hills of Aberdeenshire. It is a tale which has long occupied the thought of the novelist, and into which he has put some of his best work. Each of its six monthly parts will be illustrated from drawings made in Scotland and London by the well-known New York artist, W. T. Smedley.

"The Man who Became a Savage," is the title of a fascinating serial story recently begun in the Buffalo Illustrated Express (Sunday edition). The story was a "hit" from the first. The story is written by William T. Hornaday, a Buffalo man, and is illustrated with handsome reproductions of drawings by Charles B. Hudson, one of America's leading illustrators.

There is a steady call for "American Steam Vessels," that fine illustrated history of the development of these great commercial factors. The book is handsome enough for the table of the finest library, and at the same time contains, in attractive form, information valuable in a commercial and scientific as well as historical source. The price of the book, $5, cannot, it would seem, begin to remunerate the publishers for the work put in on the drawings, to say nothing of the care and research necessary in the compilation of a work of this character. The work is issued by Smith & Stanton, publishers of Seaboard, No. 129 Broad St., New York.

TRADE NOTES.

Mr. A. Osier, of West Bay City, agent for the lakes of DeGrauw, Aymar & Co., 34 South St., New York, called at THE RECORD office last Friday. He is completing a trip to all the more important lake ports, and states that business everywhere shows a marked improvement. There is an especially good demand for Tyzack's anchors in connection with the new tonnage now under construction. There has been an exceedingly large call for bunting flags for schools. Mr. Osier's firm have perfected arrangements by which they are enabled to turn out flags very quickly, all flags furnished by them being of the very best quality of wool bunting.

L. W. Ferdinand & Co., 267 Federal street, New York, have recently been appointed sole agents for the United States of Jeffery's Marine Glue. This glue is used principally for laying decks and is adapted to either warm or cold climates, expanding or contracting with the weather and always insuring a perfectly water-tight seam. This firm also announce that they are now prepared to furnish a light colored marine glue, for which there has always been a demand, but which they have until recently been unable to supply. It runs in price from 10c. to 25c. per pound, with special discount to the trade and to large freight transportation lines. The American line steamships St. Louis and St. Paul are calked with the Jeffery's glue, as well as the U. S. battleships Indiana, Massachusetts and Iowa, and the cruisers Minneapolis, Brooklyn, Columbia and Atlanta. Ferdinand & Co. furnish everything for a ship from "a needle to an anchor," and are agents, by the way, for the Dirigo folding anchors.

A SECTIONAL marine boiler has been provisionally patented by W. H. Wilson, 191 Waterloo Square, Camberwell Green, London, which combines the principle of water tubes arranged over an ordinary furnace, and a cylinder through which numerous fire tubes are passed. The invention also provides automatic closing valves for the ends of the several sections of water tubes, so that any water tube may be ruptured without much escape of steam or loss of pressure; other important features are also introduced.

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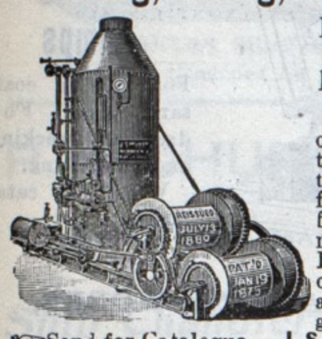

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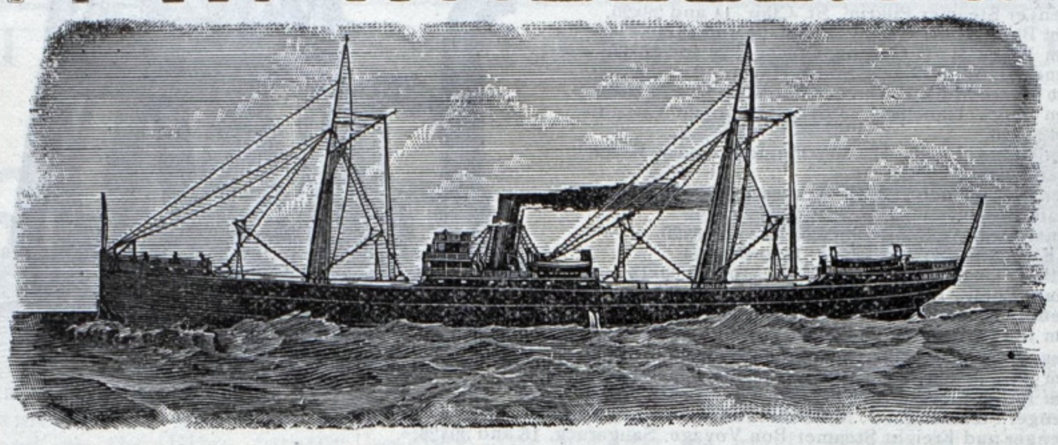

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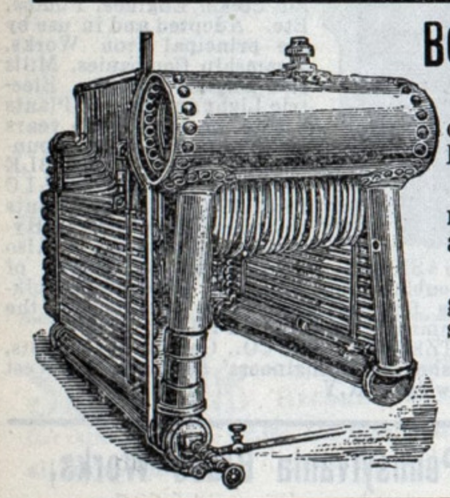

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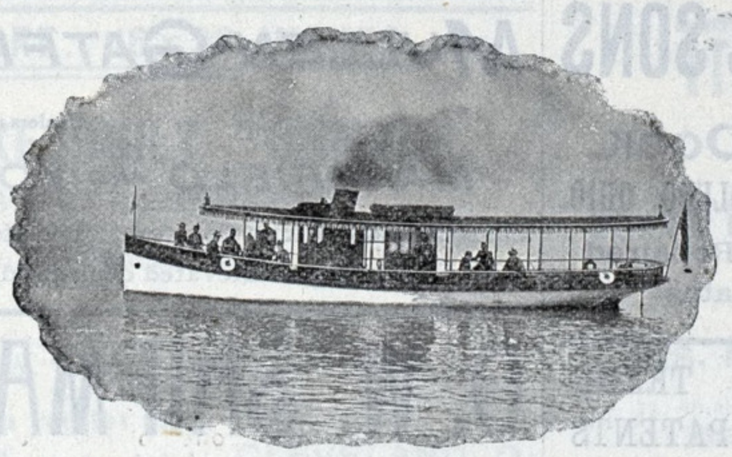

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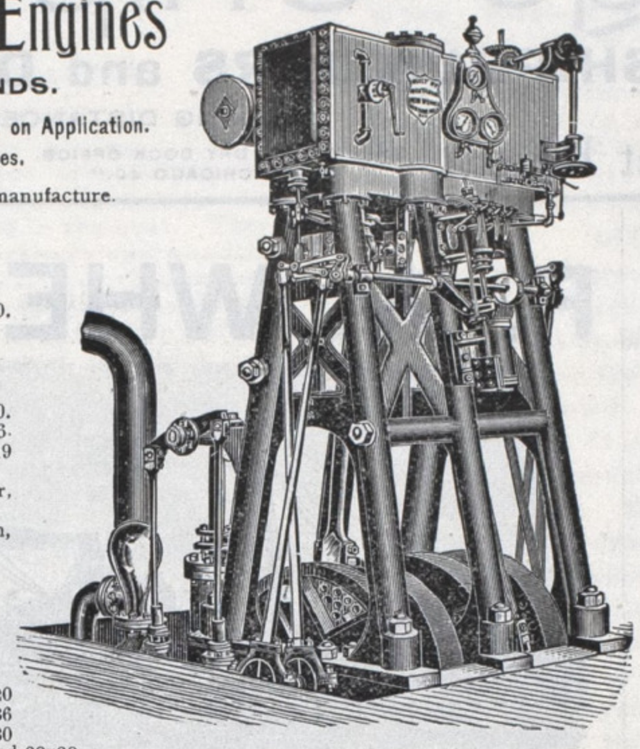

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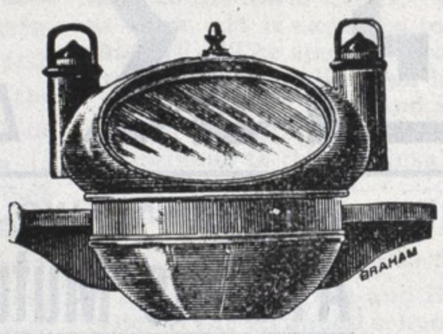

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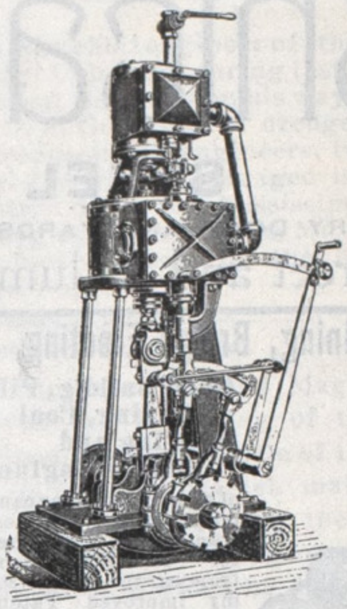

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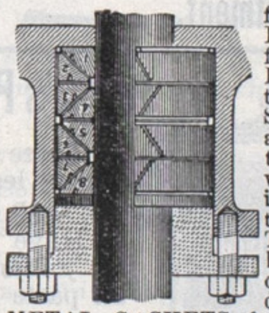

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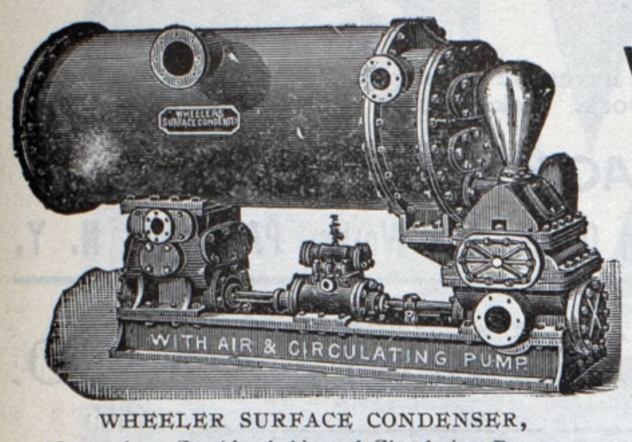

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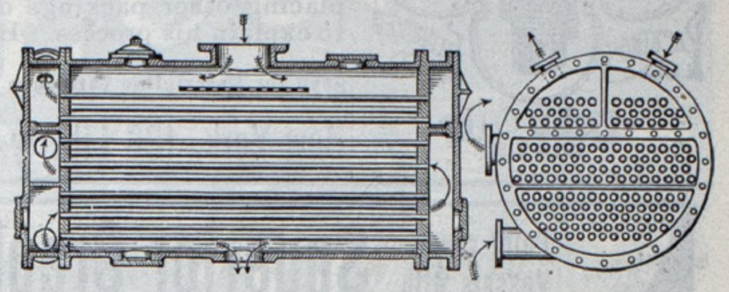

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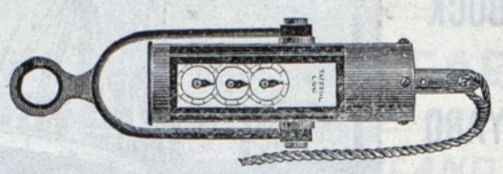

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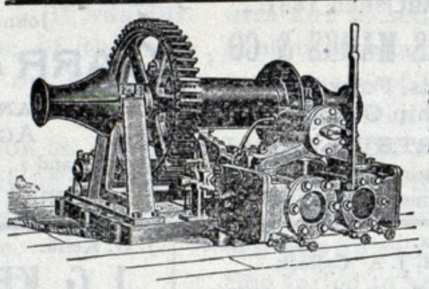

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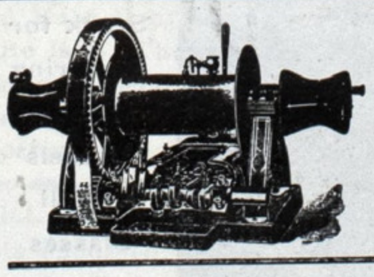

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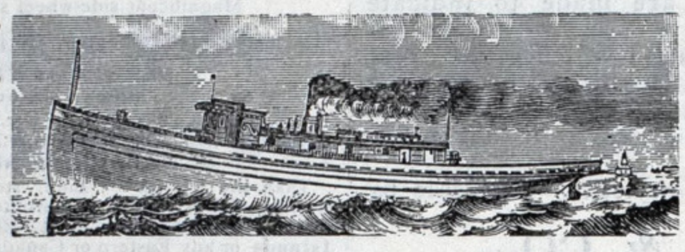

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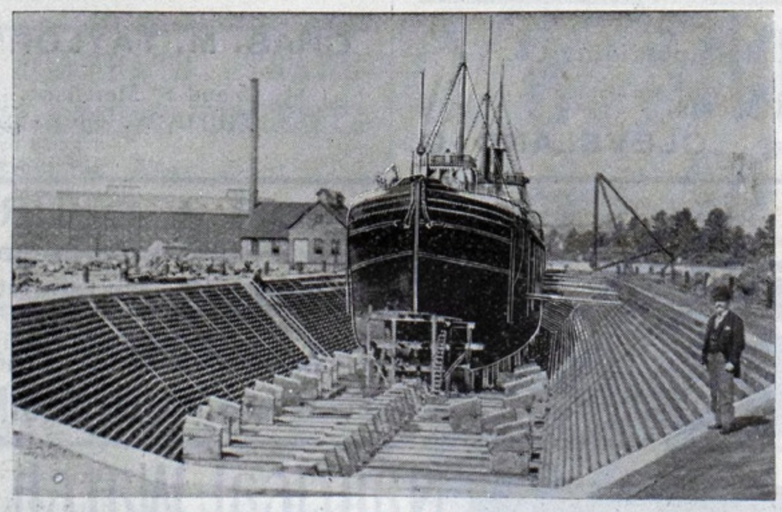

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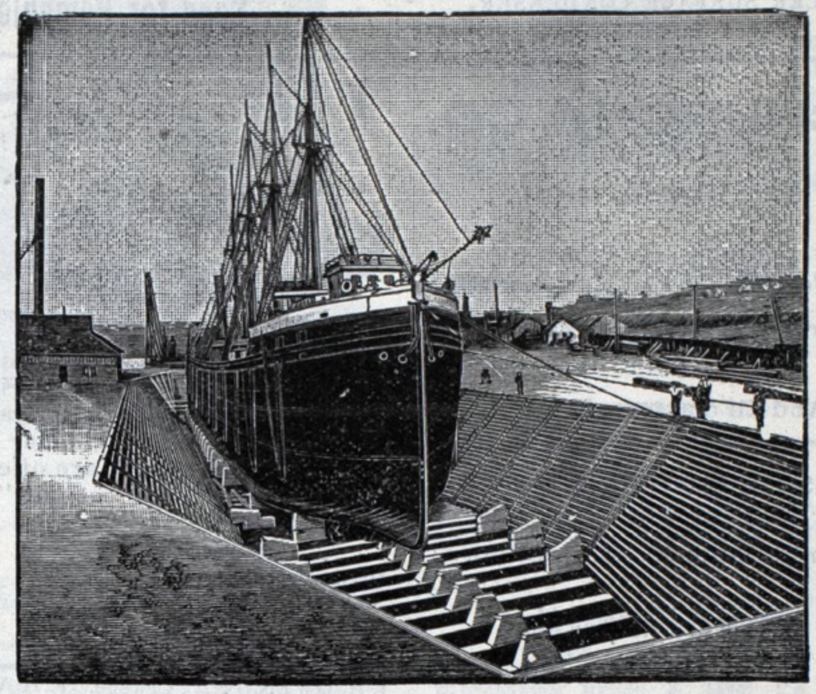

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